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H02K 41/02(21) Application number: **61173890**(71) Applicant: **ASAHI CHEM IND CO LTD**(22) Date of filing: **25.07.86**(72) Inventor: **IMAMURA FUMIHIKO**(54) **LINEAR DC MOTOR**

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(57) Abstract:

PURPOSE: To freely control the travel of each moving element by detecting the polarity of the element by a corresponding position detector, and controlling to switch the energizing direction only to a corresponding armature coil.

CONSTITUTION: Two movable elements 1 of a movable magnet type linear DC motor have 4-pole field magnets 5 and 5' and are slidably supported through a bearing 9 to a stator 4, and the measuring elements 10 and 10' of linear scales 11 and 11' are movably attached without contact. An armature coil 2 is aligned between the stator 4 and a substrate 7, a position detector 3 is mounted at a predetermined position on the substrate 7, and a current switching circuit 6 for controlling a current to the coil 2 is attached. Power lines 8 and 8' to the elements 1 and 1' are provided. Thus, even for a plurality of movable elements 1 and 1', the movement of each element is controlled by selectively energizing the coil 2 by its corresponding line 8 or 8'.

